

the markings on those 2 specimens, i.e., "two alternating series of lateral blotches characteristic of the adult", is also not for the adult of the species but for young specimens according to Weber & de Beaufort (1922: 326).

Observations on additional specimens were made possible through the kindness of Dr. J. R. Hendrickson of the University of Malaya when with his assistance I collected a brood of 29 young together with an attendant adult female *C. lucius* from the Swamp Forest area at Nee Soon, Singapore in April 1958. 10 young were kept alive. The remaining series of 19 young (Fig. 1a), were found to agree closely with the original description of *C. bistrriata* except for the presence of  $5\frac{1}{2}$  scale rows between the anterior dorsal rays and the lateral line. A re-examination of the 4 specimens from Bukit Merah and the 2 others from Singapore also gave a similar scale count. Mr. J. J. Hoedeman of the Zoologisch Museum, Amsterdam, kindly allowed me to examine the 3 type specimens of *C. bistrriata* (ZMA 103187) in his museum. The scale counts between the anterior dorsal rays and the lateral line are  $5\frac{1}{2}$  and not  $4\frac{1}{2}$  as originally described.

Of the 10 live specimens a single survived until July 1958, developing the markings corresponding to those given for young specimens by Weber and de Beaufort. My observations indicate that these markings (Fig. 1b), are transitory between younger specimens and the adult (Fig. 1d). I have recently (1961, *Malayan Nat. Journ.*, 15: 15, pl. 4, figs. 24a & 24b) given a brief account of these colour changes. ———— ERIC R. ALFRED, *Singapore National Museum*, 1st August, 1961.

**A Syngnathid fish mentioned by van Hasselt.** ———— In the published extract of a letter from J. C. van Hasselt to C. J. Temminck in *Algemeene Konst-en Letter-Bode*, 1823, part 1, no. 21, p. 329, there appears the following statement: "Van de Lophobranchien leeft in de rivieren bij Batavia een *Syngnathus*, dien ik heb doen afbeelden, en den naam *Fluviatilis* gegeven heb." The whereabouts of his specimens and the drawing that was prepared remained unknown until Bleeker (1853, *Verh. Bat. Genootsch.*, 25: 1 & 18), pointed out that the manuscript drawing had been left behind in Java and he provided a description of the species from this drawing under the name *Syngnathus fluviatilis* Bleeker. In a later publication Bleeker (1859, *Act. Soc. Sc. Indo-Neerl.*, 6: 188), listed it as a species of *Doryichthys* Kaup, but Dumeril (1870, *Hist. Nat. Poissons*, 2: 598), referred the species to *Microphis* Kaup as he did with all other species of that genus. None of the foregoing descriptions however, adequately characterised the species and accordingly Duncker (1915, *Mitt. Naturh. Mus. Hamburg*, 32: 55), and Weber & de Beaufort (1922, *Fish. Indo-Aust. Archipel.*, 4: 55), described it as a species of doubtful status under the name *D. fluviatilis* (Bleeker), with the comment that it was probably identical with *D. deokhatoides* (Bleeker).

In the course of re-examining the Kuhl and van Hasselt collection of fishes in the Rijksmuseum van Natuurlijke Historie, Leiden in 1959, I located a specimen (No. 3852) of *Microphis brachyurus* (Bleeker) labelled "Syngnathus fluviatilis". It was this label apparently that led Kaup (1856, *Cat. Loph. Fish British Mus*: 57), to include van Hasselt (1825) and Bleeker (1853) in his synonymy of the description of the specimen as *Doryichthys hasselti* Kaup. The specimen which is consequently a cotype of *D. hasselti* Kaup, is mentioned in Weber & de Beaufort (1922, *op. cit.*, 4: 55). In addition to this, I found a dry specimen (No. 1626) of *Microphis boaja* (Bleeker) which was labelled likewise and presumably in error, as "S. fluviatilis". No other specimens were found and it is believed that the fish collected by van Hasselt has been lost.

At the instigation of Dr. M. Boeseman, Curator of Fishes of that Museum, I examined Bleeker's unpublished manuscript drawings of Syngnathids that were intended for his *Atlas Ichthyologique*. Of particular interest was the presence here of a drawing labelled *Syngnathus fluviatilis* Bleeker. The fact that it was found to agree in most respects with the details given in Bleeker's description, and since Bleeker had not subsequently reported that he obtained any specimens, would seem conclusive in itself that this is a copy of if not the actual drawing mentioned by van Hasselt. A close examination of the quality of the paper used and the colour of the paints revealed noticeable differences from the other manuscript drawings affixed on the same Atlas plate. The Museum in Leiden besides, possesses a van Hasselt manuscript drawing of *Belontia hasselti* (Cuvier). The type of paper used is similar in both drawings. In September 1961, Dr. L. D. Brongersma, Director of the Rijksmuseum, kindly sent me his own detailed notes taken from his manuscript on Syngnathidae. In this he states to have seen manuscript notes by van Hasselt, containing a description of *Syngnathus fluviatilis* with a reference to the drawing. The description agrees in essential details with the illustration included among Bleeker's unpublished Atlas plates.

From the following brief description I made from the drawing, I now have little doubt that van Hasselt's Syngnathid is *Doryichthys deokhatoides* (Bleeker):—  
Dorsal 29; anal, none indicated; pectoral 21; caudal 9; rings 18 + 30; subdorsal rings 2 + 5; total length 136.7 mm.; standard length 133.2 mm.; depth 17.1; head 6.8; eye 6.7; snout 1.8; post orbital 3.3; trunk 3.1; tail (with caudal) 1.8; Superior cristae of trunk and tail discontinuous. Median cristae of trunk and inferior cristae of tail discontinuous. Inferior cristae of trunk and tail continuous. Operculum with a complete longitudinal keel. Colouration, brownish; laterally on the superior crista of the trunk, a darkish spot on the anterior edge of the 6th to 13th rings. ——— ERIC R. ALFRED, Singapore National Museum, 22nd November, 1961.

**The occurrence of *Amoebidium parasiticum* Cienkowski in Singapore.** ——— On 14th December, 1961 I received a collection of the cladoceran *Moina* from a temporary pool at Shrewsbury Road, Singapore. These belonged to a new species allied to *M. macrocopa* which I intend to describe elsewhere under the name *M. triunguiculatus*. The population was very overcrowded and males were abundant. Most of the individuals were covered with a dense growth of epibiotic organisms. These included a species of *Vorticella* and also large numbers of the peculiar organism *Amoebidium parasiticum* Cienkowski.

All stages of this epibiotite were present. They agreed in all details with the equivalent stages which I have observed in populations of *A. parasiticum* occurring on *Daphnia* in England (Johnson, 1952, *J. Queckett micros. Club, Lond.*, (4) 3: 387). I have previously observed occasional individuals, usually young stages, on *Moina dubia* in Malaya but I have never found it in any abundance before.

As with the English material which I examined, so also in Singapore, production of amoebulae was comparatively rare but showed a tendency to be synchronous amongst the specimens occurring on a single host.

The species is known from Poland (Cienkowski, 1861, *Bot. Ztg.*, 19: 169), France (Moniez, 1886, *C. R. Acad. Sci., Paris*, 104: 183; Pacaud, 1939, *Bull. biol. Fr.-Belg., suppl.*, 25: 150, 153 & 155), Spain (Margalef, 1946, *Contribucion al conocimiento hidrobiologico del Pais Vasco-Navarro*, 31), England and Denmark (Johnson, 1952, *op. cit.*), and North America (Taylor, 1928, *J. Elisha Mitchell Sci. Soc.*, 44: 126) where it is widely distributed. It has not previously been reported from the tropics.